

Commonwealth of Massachusetts
Department of Telecommunications and Energy
Fitchburg Gas and Electric Light Company
Docket Nos. D.T.E. 02-24/25
Responses to the Department's Seventh Set of Information Requests

Request No. DTE 7-40 (Gas):

Refer to Sch. JLH-1, at 10; Sch. JLH-4, at 3. Please describe with supporting schedules how the class design-day load and class base-use load on design day were determined.

Response:

The calculation of class design day load and class base-use load were done separately. The calculation of class design day demands was provided in Schedule JLH-8 (Gas), workpapers. The calculations begin on page 62 of the workpapers labeled "Workpapers Supporting JLH-2 & 3 (Gas)." The calculations begin with a tabulation of monthly sales shown on a calendar month basis for each class and for each month. These figures were already weather normalized as shown on the workpapers preceding this section. Page 63 of the workpapers shows the normal degree days of each calendar month. Page 64 shows the use per customer computed by dividing class sales by the number of customers in each month. Page 65 shows three separate calculations of design day demand.

The first calculation shown in the box with a heading "Regression Prediction" uses the use per customer information and conventional regression techniques to estimate the monthly base use, the correlation coefficient, and the use per degree day per customer, the x coefficient. For reference purposes the R-squared for each regression is shown as well as the prediction of load at 70 degree days, the Company's design day.

The second calculation, shown in the box labeled "Conventional Weather Norm," computes monthly base use as the average of July and August consumption and computes the use per degree day by subtracting monthly base use multiplied by twelve from the total annual sales and then dividing by total heating degree days. Again a load prediction at 70 degree days is included.

The third method of calculation, labeled "Peak Month Adjustment", identifies the sales occurring in each class's peak winter month. Dividing by the number of days produces the average sales per day. Dividing the degree days in that same month by the number of days produces the degree days in the average day. In order to estimate the design day, the average daily load is increased by the difference between the design day temperature of 70 and the average daily degrees days in that month multiplied by the use per degree day.

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Response to DTE 7-40 (Gas), continued

Using these three different methods, three different estimates of design day demand were developed. When the regression results were sufficiently robust, the regression estimate was used to estimate class design day demands. When the R-squared values were questionable, the higher of the Conventional Weather Norm and Peak Month Adjustment methods was employed. The column labeled "Design Day Load Estimate Before Adjustment" shows the best estimate for each class using the decision rule delineated. At the bottom of this column, subtotals are shown for sales and transportation. Since the Company's Integrated Resource Plan provided a reliable estimate of total sales and transportation design day loads, the estimates were adjusted equi-proportionally in order to match the published system totals.

The calculation of base use demands was developed as part of the workpapers supporting the MBA allocation method. Unfortunately, these workpapers were inadvertently omitted from the filing. Attachment DTE 7-40 shows the missing workpapers beginning with the page labeled Workpapers supporting Schedule JLH-4 (Gas) page 22. Page 23 shows the calculation of base send out by class. The daily base use entitlement is computed as the average daily load for the months of July and August. This base use entitlement is subtracted from the design day demand of the class in order to compute the remaining design day demand to be served by remaining supplies.

Person Responsible: James L. Harrison

DEMAND COSTS

Fitchburg Gas and Electric Light Company Workpapers Supporting Demand Costs of GAF

Computation of Base Demand Costs

Long Lines Supplies	268,147
Supply demand Charges	1,450,914
Pipeline Demand Charges	1,719,061
Total Demand Charges	
MDQ of Pipeline Demands	87,680
Base Demand Level	14,818
Annual Base Demand	\$290,523

BASE DEMAND COSTS (3)	Nov-01	Dec-01	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01	TOTAL
TOTAL	\$24,210	\$24,210	\$24,210	\$24,210	\$24,210	\$24,210	\$24,210	\$24,210	\$24,210	\$24,210	\$24,210	\$24,210	\$290,523

All volumes in Therms.

